Long-term outcomes of intra-arterial catheter-directed thrombolysis for acute limb ischemia: a single-center experience

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Introduction: Acute limb ischemia (ALI) carries substantial mortality risk and frequent severe complications. Intra-arterial catheter-directed thrombolysis (CDT) offers high short-term clinical and technical success in selected patients. However, long-term outcomes after CDT remain insufficiently explored[1].

Patients and Methods: We retrospectively analyzed consecutive adult patients with acute limb ischemia who underwent catheter-directed thrombolysis at the University Hospital Centre Zagreb between 2012 and 2022. Eligible patients had symptoms ≤14 days and viable extremities. Outcomes, including amputation-free survival (AFS), major adverse limb events (MALE), major adverse cardiovascular events (MACE), ankle-brachial index (ABI) trends, and mortality, were assessed at 1 year, 3 years, and at the final follow-up.

Results: The study cohort comprised 48 patients (60.4% men; median age 68 years, IQR 57.3–75.5), predominantly presenting with lower limb ischemia (94%). Initial clinical success was achieved in 81.3% of cases. Median ankle-brachial index (ABI) improved from 0.33 before thrombolysis to 0.85 after therapy. During long-term follow-up, major amputation occurred in three patients (9.4%), and overall mortality reached 27.1% by the end of the observation period. This corresponded to AFS of 89.3% in one year, 79.1% in three years, and estimated AFS of 64.2% at 72 months. Recurrent ALI was documented in 5.1%, and critical limb ischemia developed in 15.4%. MACE occurred in 13.8% of patients, while MALE affected 28.2%. Patients achieving initial clinical success maintained significantly higher ABI values during follow-up (median ABI 0.98 vs 0.59 at final assessment), confirming sustained perfusion benefits (**Figure 1**). Continued anticoagulation use was more common in these patients, suggesting a potential protective role against re-occlusion.

Conclusions: CDT provides durable limb salvage with acceptable long-term safety. Preserved ABI over several years highlights its effectiveness. Careful patient selection and vigilant follow-up are essential for optimizing long-term results.

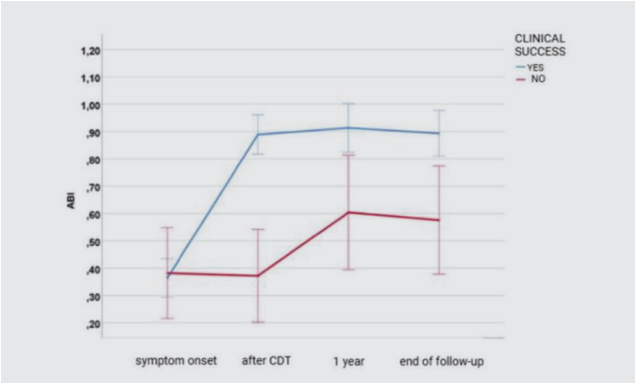

FIGURE 1. Ankle-brachial index before and after thrombolysis, after one year follow-up and at the end of follow-up.
CDT = catheter-directed thrombolysis

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LITERATURE

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